

UP-NIFE SERIES

UP-NF 110

MAXIMUM DIMENSIONS

	mm	(inches)
Width	108	(4.25)
Length	67	(2.4)
Height	351	(13.8)
Terminal Spacing	64	(2.5)

FUSED IRON BATTERY



GENERAL SPECIFICATIONS

Battery Type	Rechargeable, Flooded
Chemical System	Nickel Iron (NiFe)
Weight	5.2 kg (11.5 lbs)
Nominal Discharge Voltage	1.2 - 1.3 Volts (rate dependent)
Nominal Cell Capacity C/10 to 0.9V	110 Ah
Nominal Cell Capacity C/5 to 0.9V	105 Ah
Terminals	M8 x 1.25 mm
Container	Polypropylene (V0 available)
Vent	Includes Flame Arrestor
DI Water Top Up Frequency	Depends on Application (1 week to 1 year)
Autofill System	Available Separately

ADVANTAGES OVER LEAD ACID TECHNOLOGY

Energy:	- Deeper depth of discharge capability results in significantly more usable capacity. - More specific energy at recommended depth of discharge. - More volumetric energy density at recommended depth of discharge.
Charging:	- Capable of higher rate charging.
Life:	- Much longer cycle life. - Much longer shelf life. - Longer float charging life.
Efficiency:	- Higher efficiency (energy out / energy in).
Temperature:	- Higher upper end of operating temperature range. - Larger range for storage temperature.
Environment:	- No lead content.

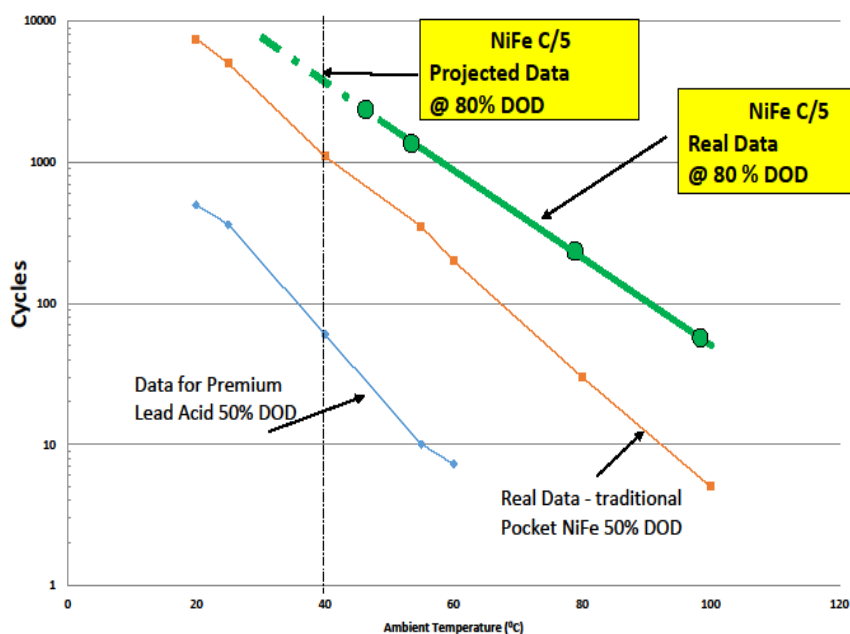


SYSTEM OPERATION	
Recommended Charging	Constant current
Charge Voltage	1.65V - 1.75V
Float Hold Voltage	1.40 - 1.45V
Optimum Charging Current	C/4 (28 A)
Minimum Charging Current	C/50 (2 A)
Maximum Cont. Charging Current	C/2 (55 A)
Maximum Pulsed Charging Current	6C (660 A)
Equalization Charge	150% min, 200% max.
Maintenance Charge	Application Dependent
Initiation Charge	150% min, 200% max.
Optimum Discharge Current	C/4 - C/10 (11 - 28 A)
Maximum Discharge Current	1C (110 A)
Battery Cycle Life @25°C	>11.000 cycles @ 100% DOD
Battery Cycle Life @35°C	> 5.500 cycles @ 100% DOD
Battery Life on Float	20 years
Battery Storage Life	85 years

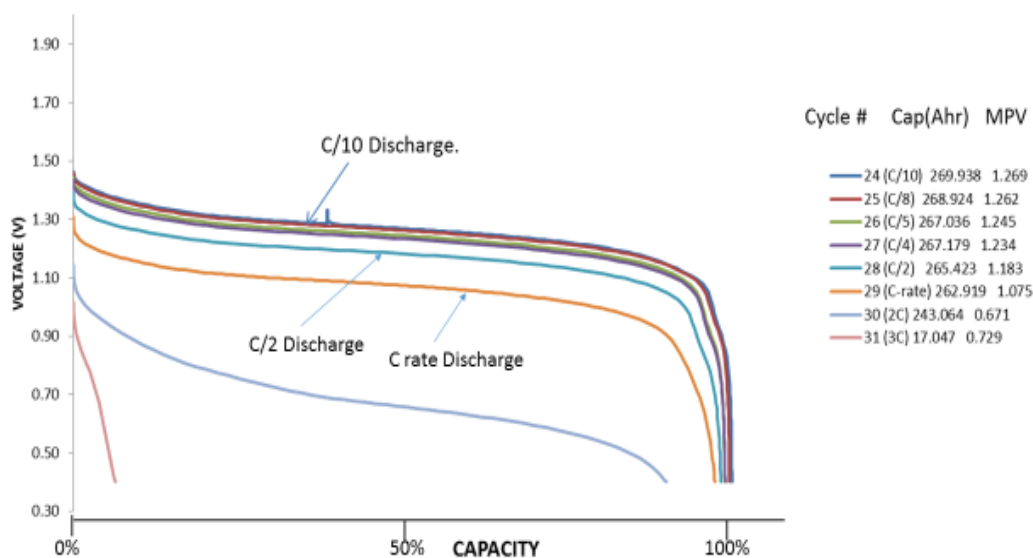
ENVIRONMENT	
Discharge Temperature (°C)	-30 to +60 (-40 available)
Charge Temperature (°C)	-30 to +60 (-40 available)
Storage Temperature (°C)	-30 to +60 (-40 available)
Operating Humidity	5% to 95% non-condensing
Temperature Compensation	None
Ah Efficiency (0 to 80% SOC)	98%
Ah Efficiency (80 to 100% SOC)	75%
Recommended 80% DOD	5% - 85% SOC
Solar Compatible	Yes
Wind Compatible	Yes
Transportation Classification	UN2795 Class 8



Cycle Life is superior to Traditional Nickel Iron

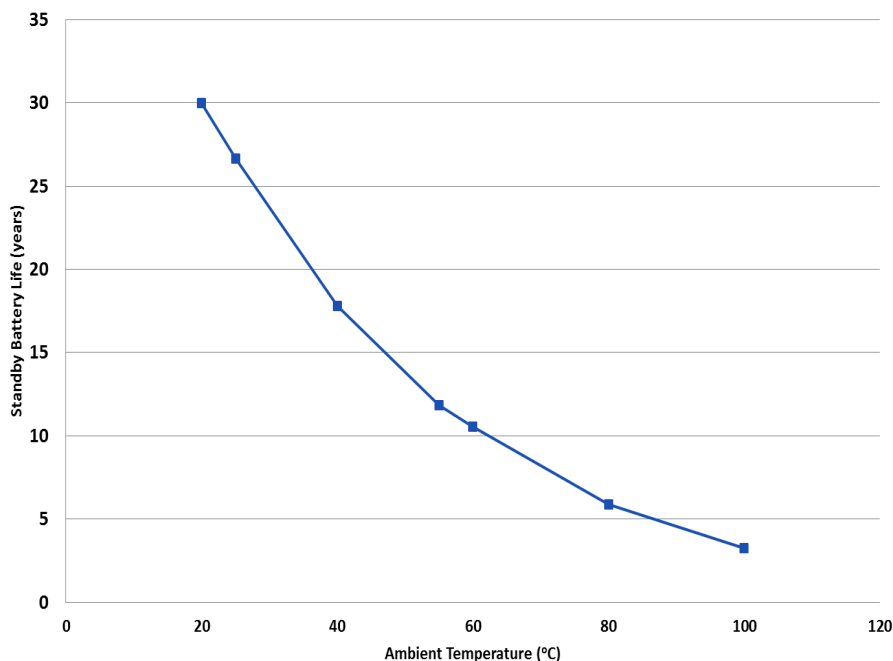


Rate Capability - applies to 260Ah, 300Ah & 350Ah Products



Cycle # Cap(Ahr) MPV

24 (C/10)	269.938	1.269
25 (C/8)	268.924	1.262
26 (C/5)	267.036	1.245
27 (C/4)	267.179	1.234
28 (C/2)	265.423	1.183
29 (C-rate)	262.919	1.075
30 (2C)	243.064	0.671
31 (3C)	17.047	0.729



Temperature	Cycle Life
55C	1,600
50C	2,400
45C	3,300
40C	4,400
35C	6,000
30C	8,100
25C	11,000
20C	15,000
15C	20,000
10C	27,000
5C	36,000
0C	50,000

Cycle Life for 80% Depth of Discharge at different Temperatures

